

## **Deliverables for April 12, 2000, U.S.-South African Binational Commission Sustainable Energy Committee Meeting**

### **Review of Activities and Future Priorities**

Secretary Richardson and Minister Mlambo-Ngcuka agreed to prepare a comprehensive review of cooperative efforts undertaken since the inception of the BNC in 1995. The document would measure the success of ongoing efforts and completed efforts as well as propose future areas of priority focus. The Minister and the Secretary agreed that this report would be completed by late July 2000.

### **Policy**

#### **Working Group to Implement Joint Statement on Clean Energy Cooperation in Support of the Environment:**

During the February 1999 meeting of the Binational Commission, the Secretary of Energy and the Minister of Minerals and Energy signed the Joint Statement on Clean Energy Cooperation in Support of the Environment. Today, Secretary Richardson and Minister Mlambo-Ngcuka agreed that a working group will be formed to implement the Joint Statement. The Working Group will hold its first meeting before the end of June 2000. The draft terms of reference for the group have been submitted to the South Africans and will be agreed to by the start of June 2000. Secretary Richardson announced that the Chairman for the U.S. will be the Deputy Secretary of Energy T.J. Glauthier and the vice chairs will be the Deputy Administrator of the Agency for International Development Hattie Babbitt and Assistant Administrator for U.S. Environmental Protection Agency (EPA) William Nitze. For the South African side, Minister Mlambo-Ngcuka announced that the Deputy Minister of Minerals and Energy, Ms Susan Shabangu, will lead the South African team on the Working Group and will be supported by the interdepartmental National Committee on Climate Change (NCCC).

#### **Country Studies/ National Action Plan and Activities Implemented Jointly:**

Secretary Richardson and Minister Mlambo-Ngcuka recognized the ongoing technical cooperation between the United States and South Africa on its Climate Change Country Study under the U.N. Framework Convention on Climate Change (FCCC). The greenhouse gas mitigation assessment section of the Country Study is expected to be in final draft by end of July 2000, and it was agreed that The U.S. Department of Energy (DOE) will provide additional technical assistance to support its completion. South Africa intends to prepare a National Climate Change Action plan, drawing on the results of the Country Study, and with funding from the U.S. Agency for International Development (USAID). It was also agreed that U.S. Department of Energy and the U.S. Environmental Protection Agency will provide technical guidance and expert assistance for South Africa to complete the National Action Plan.

Secretary Richardson and Minister Mlambo-Ngcuka also recognized the opportunities to promote greater use of clean energy technologies and each nations sustainable development goals through the U.N. FCCC's flexibility mechanisms. They recognized DOE and National Laboratory staff efforts with South Africa to develop at least four clean energy joint-venture projects in South Africa for inclusion in the U.N. FCCC's Activities Implemented Jointly (AIJ) pilot phase and the U.S. Initiative on Joint Implementation (USIJI).

DOE and USAID are working together with South Africa to provide training to South African organizations on project design and preparing the USIJI applications, as well as assistance in partnering with U.S. organizations and securing financing. South African organizations would submit these projects to the South African National Committee on Climate Change and USIJI to be considered by the Fall of 2000. The effort also seeks to build greater human and institutional capacity for South Africa to participate in AIJ and other U.N. FCCC mechanisms.

Potential South African USIJI projects receiving technical assistance include:

- Solar "mini-grid" project;
- Demonstration project to use renewable energy technologies and "low-smoke" fuels; and
- "Clean commute" transportation project.

In late 1999, DOE also awarded financial assistance to U.S.-based Electrotek to develop a USIJI project in South Africa that would avoid emissions by using private generating capacity to meet peak electricity demand needs.

### **Electricity Regulatory Co-operation Programme:**

The South African Electricity Sector is undergoing fundamental restructuring and reform. In terms of the Electricity Distribution Industry (EDI) the process of developing a comprehensive implementation strategy and plan is underway that will see the move from its current state to an end state of the maximum of financially viable, independent regional electricity distributors (REDs). For the rest of the Electricity Supply Industry, Government is in the process of refining its policy and strategy for moving towards a competitive market structure. This restructuring and reform will have an impact on the current regulatory framework. Thus, in terms of cooperation in the area of regulation, South Africa has identified urgent areas of cooperation. These include electricity pricing; reclassification of regulatory information requirements, handling and dissemination; non-grid electricity regulation and skills transfer/ capacity building. The Minister and Secretary have agreed to facilitate technical assistance and training of South Africans, in the short term, utilizing the National Association of Regulatory Utility Commissioners (NARUC). NARUC would provide technical/analytical assistance in the identified areas of regulation and through their training programmes. The Secretary and Minister also agreed to exchange experts for purposes of on-site training and capacity building through the USAID regulatory partnership programmes. In addition, the Secretary and the Minister directed the Committee to form a joint working group that would develop and propose a continuing term co-operation agenda in this area.

## **Development of South African Data Collection System**

The DME expressed its interest in further strengthening its capabilities in energy data collection and analysis. DOE and DME have agreed to extend the activities initiated under the August 1995 “Joint Statement of Intent between the Department of Energy of the United States of America and the Department of Minerals and Energy of the Republic of South Africa on an Energy Information Exchange.” The exchange has resulted in a number of successes including development of a joint energy information web site on the Internet; country training visits by staff members; and enhanced communication via the Internet.

The continuation of this process will provide additional training opportunities in the following three areas: (a) a sustainable program for energy data collection and analysis that would replace the current ad-hoc data collection processes; (b) integrated energy planning that would include capacity development for making mid-term and long-term energy supply and demand projections; and (c) the legislation and legal structure needed for successful energy information collection programs.

The renewed commitment for energy information exchange will be fulfilled through mutual agreement on specific objectives for the three areas of focus. The planning would be followed by visits of staff from the Department of Minerals and Energy or other appropriate South African organizations to the Energy Information Administration (EIA) in the United States Department of Energy for the purpose of experience-sharing and training. In addition, staff from the EIA may visit South Africa to offer on-site training and experience sharing.

## **Renewable Energy/Energy Efficiency**

### **USAID Renewable Energy Assistance Program:**

With the decision to provide universal access to essential electricity services for all of its citizens, South Africa's government has chosen to authorize the establishment of (and initial partial subsidy for) off-grid electrical utilities to provide these basic services through the use of solar photovoltaic technology. Concessions are being competitively awarded to firms that plan to provide these services on a market basis.

DME and USAID agreed in early 1999 that an appropriate use of the \$900,000 previously pledged by USAID for renewable energy-based rural electrification would be to establish a credit mechanism whereby off-grid utility customers could acquire electrically-driven productive use equipment (such as sewing machines, power tools, water pumps, etc.) that could enable economic development. USAID (through its Washington and Pretoria-based staff) and DME (with the assistance of NER and internal development organizations) agree to quickly establish a dialogue with the objective of defining a development credit mechanism that will allow the beneficial effects of this mechanism to be felt by as many off-grid utility customers and their families as possible.

### **Integrated Household Energy Delivery Programme:**

The Minister expressed the need for further co-operation regarding Integrated Household Energy Delivery Program and to extend the program beyond the pilot phase. It was however acknowledged that pilot projects have been designed in Kutloanong in the Northern Cape and Gugulethu in the Western Cape. The program is experiencing problems with regard to expanding beyond the pilot phase. The Secretary and the Minister agreed that the existing program be evaluated with a view to identify barriers to further expansion and delivery and options to remove them. This evaluation will address issues relating to local institutional support, local capacity building, integrating the program with other local government development plans.

### **Fossil Energy**

#### **Tuskegee Capacity Building Program:**

The Tuskegee Capacity Building Program will conduct a South African Energy Conference the first week of August 2000 at Tuskegee with the objectives of: (a) continuing to work towards greater coverage and participation in capacity building in the South African energy sector, (b) expanding the dialog to Southern Africa and plan for a major Southern African Energy Conference to be held on the Continent in the year 2001, (c) providing plant tours and visits to Department of Energy Facilities and Modern Fossil Energy Plants; and, (d) developing stronger NGO participation as a means of obtaining sustaining support for the project beyond 2001.

### **Nuclear Energy**

#### **Co-operation on Nuclear Safety:**

The Minister and Secretary noted that the National Nuclear Regulator (NNR) signed a new co-operation agreement with the US Nuclear Regulatory Commission on 30 March 2000. The agreement provides for broad areas of co-operation, including working together on the regulatory programme for the PBMR. The overall agreement gives rise to other related agreements for which NNR is paying a fee in some cases.

The Minister and Secretary also noted that the NRC has submitted a proposed training programme for the yet to be appointed CEO of the NNR. The Minister will consider the proposal and report back.

The Minister and Secretary furthermore noted that interactions and co-operation between the two regulatory authorities are continuing to grow.

### **Pebble Bed Modular Reactor:**

Secretary Richardson presented a letter and report to Minister Mlambo-Ngcuka following the visit to South Africa of an interagency team from the USA led by DOE during the week of 14 February 2000 to review the PBMR project. The report concluded that the PBMR Project was viable and could be successful. It makes several important recommendations like the need for comprehensive fuel testing, component and system testing, co-operation between the two licensing authorities (NRC & NNR), and completion of South Africa's Integrated Resource Plan. The report also suggested specific research projects where US/SA collaboration could support PBMR technology development.

The Minister and Secretary noted that a letter had also been addressed to Minister Mlambo-Ngcuka by NRC Chairman R Meserve, proposing cooperation between the two nuclear regulatory authorities and to develop a licensing approach for the construction of the PBMR.

The Minister will evaluate the report and will respond back to the Secretary regarding the scope and timing of possible next steps.

### **Nuclear Energy Education Program:**

The Secretary and Minister discussed areas of cooperation for South African nuclear education. They agreed in principle to the following:

- Establishment of joint scholarships to U.S. universities for previously disadvantaged South Africans in programs to promote education in nuclear technology;
- A U.S.-South Africa university exchange program especially including Historically-Black Colleges and Universities (HBCUs);
- An exchange program for U.S. nuclear experts to travel to South Africa in return for South African professors and students to visit DOE national laboratories; and
- Use of the IAEA Fellows Program to train South African professionals at U.S. national laboratories and universities.

### **Safari Research Reactor: Conversion of Fuel from High Enriched Uranium (HEU) to Low Enriched Uranium (LEU):**

The Minister and the US Secretary of Energy noted that a meeting was held between officials on 3 & 4 June 1999 to develop a workplan to study the feasibility of converting SAFARI fuel from HEU to LEU for non-proliferation purposes. The Minister announced her approval of the workplan and agreed with the Secretary that the study will be wholly funded by the USA with the IAEA participating as a third party. The study alone does not represent a commitment to convert the SAFARI from HEU to LEU. South African empowerment experts will be involved in the study.

Secretary Richardson announced that scientists at Argonne National Laboratory have already compiled their first deliverable (analytical report) and a meeting will be arranged in the very near future. It was also noted that Argonne National Laboratory was cooperating with several countries, including South Africa, in a study on the production of medical isotopes.

## **Capacity Building**

### **Department of Minerals and Energy Exchange Program - Phase 3:**

A capacity building program has been developed to provide senior members of the Department of Minerals and Energy with a working knowledge of the range of technical and institutional requirements for the implementation of energy policy and planning programs adapted to the South African context. The program discusses workable curricula to address diversity issues, creating environments for self-sustaining energy efficiency markets and social dimensions with domestic political considerations, among others. The first two phases of this program were extremely value-adding according to the South African staff members. This will be the third phase of the program. The Office of Economic Impact and Diversity is the U.S. lead for this effort.

The Secretary and Minister agreed that future specialized capacity building programs will be targeted to provide institutional capacity building assistance to the program offices under the specified “Areas of Cooperation.” In this way, all agreed upon programs will have a capacity building aspect integrated into the main components of the program, including cooperative efforts in the areas of policy, technology and market development.